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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PIERRE FAYET and BERTRAND JACCOUD

Appeal 2009-013149
Application 10/529,533
Technology Center 1700

Decided: May 17, 2010

Before MICHAEL P. COLAIANNI, ROMULO H. DELMENDO, and KAREN M. HASTINGS, *Administrative Patent Judges*.

DELMENDO, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1 and 7-12 (Appeal Brief filed March 5, 2009, hereinafter "App. Br.," at 5; Final Office Action mailed October 16, 2008). We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

STATEMENT OF THE CASE

Appellants' invention relates to a device for treating a web material in a plasma-enhanced process and, in particular, a device for coating a web material in a single step plasma-enhanced chemical vapor deposition process (Specification, hereinafter "Spec.," ¶ [0005]; claim 1). According to Appellants, the inventive device "is able to be operated more efficiently and reliably than known devices carrying out similar processes" (*id.*).

Claim 1, the sole independent claim, reads as follows:

> 1. A device for coating a web material in a single step plasma enhanced chemical vapor deposition process, the device comprising:
>
> a vacuum chamber (1) equipped for maintaining a constant reduced pressure therein and,
>
> arranged within the vacuum chamber (1) are,
>
> a rotating drum for supporting and continuously transporting a web material lying against a circumferential surface of the drum, the drum being one of electrically grounded, electrically floating, and negatively biased,
>
> more than two independent, substantially identical, magnetron electrodes (6) comprising:
>
> rectangular magnetron faces with a length and a width,
>
> a center pole and a peripheral pole, the two poles having opposite polarities and the peripheral pole extending around the center pole, and

each magnetron electrode (6) being powered with an alternating voltage by its own power supply unit (7), and

a plurality of gas supply lines,

wherein the magnetron electrodes are arranged with the magnetron faces facing the circumferential surface of the drum and at a same distance therefrom, the lengths of the magnetron faces extending parallel to a drum axis and the widths of the magnetron faces extending substantially tangential to the circumferential surface, and

wherein the gas supply lines extend between neighboring magnetron electrodes and comprise rows of gas outlets arranged for gas injection substantially perpendicular to the circumferential drum surface, wherein the magnetron faces and the gas supply lines are arranged side by side to form, together with a part of the circumferential surface of the rotating drum, one baffle-free combined process space and wherein the gas supply lines are connected to a source of only one process gas mixture.

(App. Br. 19-20; Claims App'x.)

The Examiner relied upon the following as evidence of unpatentability (Examiner's Answer mailed April 28, 2009, hereinafter "Ans.," 3):

Kuehnle	3,884,787	May 20, 1975
Seeser	5,879,519	Mar. 9, 1999
Fu	6,306,265 B1	Oct. 23, 2001

The Examiner rejected claims 1 and 7-12 under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Seeser, Kuehnle, and Fu (Ans. 3-6).[1]

ISSUE

The Examiner found, *inter alia*, that Seeser describes a device for coating a web material including a rotating drum, magnetron electrodes, and gas supply lines, wherein "the magnetron faces and the gas supply lines are arranged side by side . . . to form, together with a part of the circumferential surface of the rotating drum, one baffle-free combined process space . . ." (Ans. 4). Specifically, the Examiner found that Seeser's Figure 15 discloses a baffle-free combined process space between existing baffles and the web positioned on the drum (Ans. 4; Advisory 3 and 4). In addition, the Examiner found that Seeser's Figure 16 discloses a baffle-free combined process space in the manner claimed (Ans 4).

Appellants counter that Seeser's Figure 15 depicts baffles and does not describe a baffle-free combined space according to the claimed invention merely because there is an open space between a station (baffle) and the film surface (App. Br. 14). In addition, Appellants contend that Seeser's Figure 16 does not show a baffle-free combined space, but only shows the stations where the deposition and reaction devices are positioned and does not depict

[1] The Examiner withdrew the rejection under 35 U.S.C. § 112, ¶1 of claims 1 and 8 (Advisory Action mailed December 18, 2008, hereinafter "Advisory" at 2 and Ans. at 3, respectively). Correspondingly, the rejection under 35 U.S.C. § 112, ¶ 1 of dependent claims 7 and 9-12 has not been repeated in the Examiner's Answer and therefore also withdrawn.

the details (e.g., baffles) of magnetrons located at these stations (App. Br. 13-14 and 15).

Thus, a dispositive issue is:

Does Seeser disclose the disputed claim limitation "the magnetron faces . . . form, together with a part of the circumferential surface of the rotating drum, one baffle-free combined process space"?

FINDINGS OF FACT ("FF")

1. Appellants' Figure 2 is reproduced below:

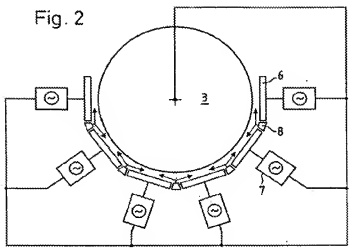

Figure 2 depicts magnetron devices 6 and gas supply lines 8 arranged around part of the circumferential surface of a rotating drum 3 (Spec. ¶ [0020]).

2. Seeser discloses:

> A thin film coating system incorporates separate, separately-controlled deposition and reaction zones for depositing materials such as refractory metals and forming oxides and other compounds and alloys of such materials. The associated process involves rotating or translating workpieces past the

differentially pumped, atmospherically separated, sequentially or simultaneously operated deposition and reaction zones . . . . (Abstract.)

3. Seeser describes, with reference to an illustrated embodiment in Figures 1-3, that reference numerals 26 and 27 refer to deposition processing stations and 28 refers to a reaction processing station (col. 7, ll. 10-18).

4. Seeser further discloses that "[r]eference numerals 26-28 refer to the processing stations and to the devices at the stations" (col. 7, ll. 19-20).

5. Seeser's Figure 5 is reproduced below:

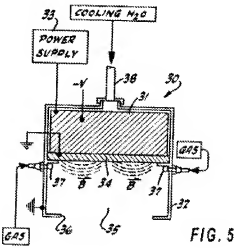

FIG. 5

Figure 5 depicts a cross-sectional view of one type of a planar DC magnetron sputtering device 30 comprising an electrode 31 and a front gas baffle 32 (col. 7, ll. 42-49).

6. Seeser discloses that compounds can be formed using the linear magnetron sputtering devices 30 at sputter stations 26 and/or 27 and/or at the reaction station 28, wherein the sputter device is "enclosed in distinct partial pressure regimes or chamber

regions between which the substrate is alternated by the continuously rotating drum" (col. 8, ll. 3-13).

7. Seeser's Figure 15 is reproduced below:

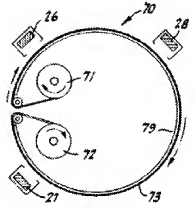

FIG. 15

Figure 15 depicts a rotary magnetron sputtering system 70, that "adapts [the] linear magnetron sputtering approach to a continuous or incremental sheet or roll," wherein a flexible web 73 advances intermittently or continuously about the circumference of a rotating drum 79 past linear magnetron sputtering stations (col. 16, ll. 29-32 and 39-46).

8. Seeser's Figure 16

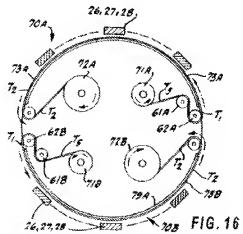

FIG. 16

Fig. 16 depicts an alternative web or roll coating system comprising two "half" systems 70A, 70B, each of which includes a film supply reel 71 (A, B, respectively) and a take up reel 72 (A, B, respectively) in a symmetrical layout (col. 5, ll. 25-26; col. 17, ll. 8-12).

PRINCIPLES OF LAW

"Although the PTO must give claims their broadest reasonable interpretation, this interpretation must be consistent with the one that those skilled in the art would reach." *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999). *See also In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997) ("[I]t would be unreasonable for the PTO to ignore any interpretative guidance afforded by applicant's written description.").

ANALYSIS

We agree with Appellants that the Examiner did not provide sufficient evidence or rationale to support a finding that Seeser discloses a baffle-free combined process space, as required in the claimed invention.

The Examiner and Appellants do not dispute that Figure 15 describes baffles at each of the stations 26-28. Rather, the Examiner contends that Figure 15 describes a baffle-free combined space because there is a space between the existing baffles and the web positioned on the drum (Ans. 4; Advisory 3-4).

We cannot agree with the Examiner. While Appellants' Specification does not contain any special definition for the term "baffle-free," Appellants' Figure 2 indicates that the term is used in a manner consistent

with its ordinary usage (i.e., without a baffle) (FF 1). Thus, one skilled in the relevant art would have understood that the term "baffle-free" means free of structure that acts as a baffle. Therefore, Seeser's disclosure of a device that comprises baffles, as depicted in Figure 15, does not describe a *baffle-free* combined process space (FF 7).

Appellants argue that Seeser's Figure 16 does not teach a baffle-free combined process space because Figure 16 only depicts the position of the stations 26-28, which do not necessarily indicate the details of the device (App. Br. 15). Furthermore, Appellants contend that Seeser describes a magnetron sputtering device that can be used at stations 26-28 that comprises a housing which forms a gas baffle (App. Br. 13). In addition, Appellants assert:

> One of ordinary skill in the art learns from the description (in particular col. 8, l.3-13) that, independent of the type of station used, it is mandatory to enclose the deposition device and the reaction device in distinct partial pressure regimes or chamber regions. Any omission of the baffles is just to simplify the drawings [App. Br. 15].

The Examiner did not adequately respond to Appellants' arguments that Seeser's Figure 16, (FF 8), merely depicts stations 26-28 and that Seeser requires baffles for magnetron deposition devices. Significantly, the Examiner fails to direct us to any evidence that Seeser discloses deposition stations that employ magnetron electrodes without a baffle. Indeed, Seeser discloses a thin film coating system having deposition and reaction zones, and describes an embodiment of a magnetron sputter deposition device that comprises a baffle (FF 2-6). For these reasons, we cannot uphold the Examiner's rejection.

We need not address Kuehnle or Fu because neither reference has been cited for disclosing the disputed limitation.

CONCLUSION

The Examiner did not provide sufficient evidence to support a finding that Seeser discloses a device wherein "the magnetron faces . . . form, together with a part of the circumferential surface of the rotating drum, one baffle-free combined process space," as required in the claimed invention.

DECISION

The Examiner's decision to reject claims 1 and 7-12 under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Seeser, Kuehnle, and Fu is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

REVERSED

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